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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,540	10/07/2003	Christopher J. Ziolkowski	GTI-1525	5011

33058 7590 01/12/2005

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EXAMINER
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FITZGERALD, JOHN P

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/680,540

Applicant(s)

ZIOLKOWSKI ET AL.

Examiner

John P Fitzgerald

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/7/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

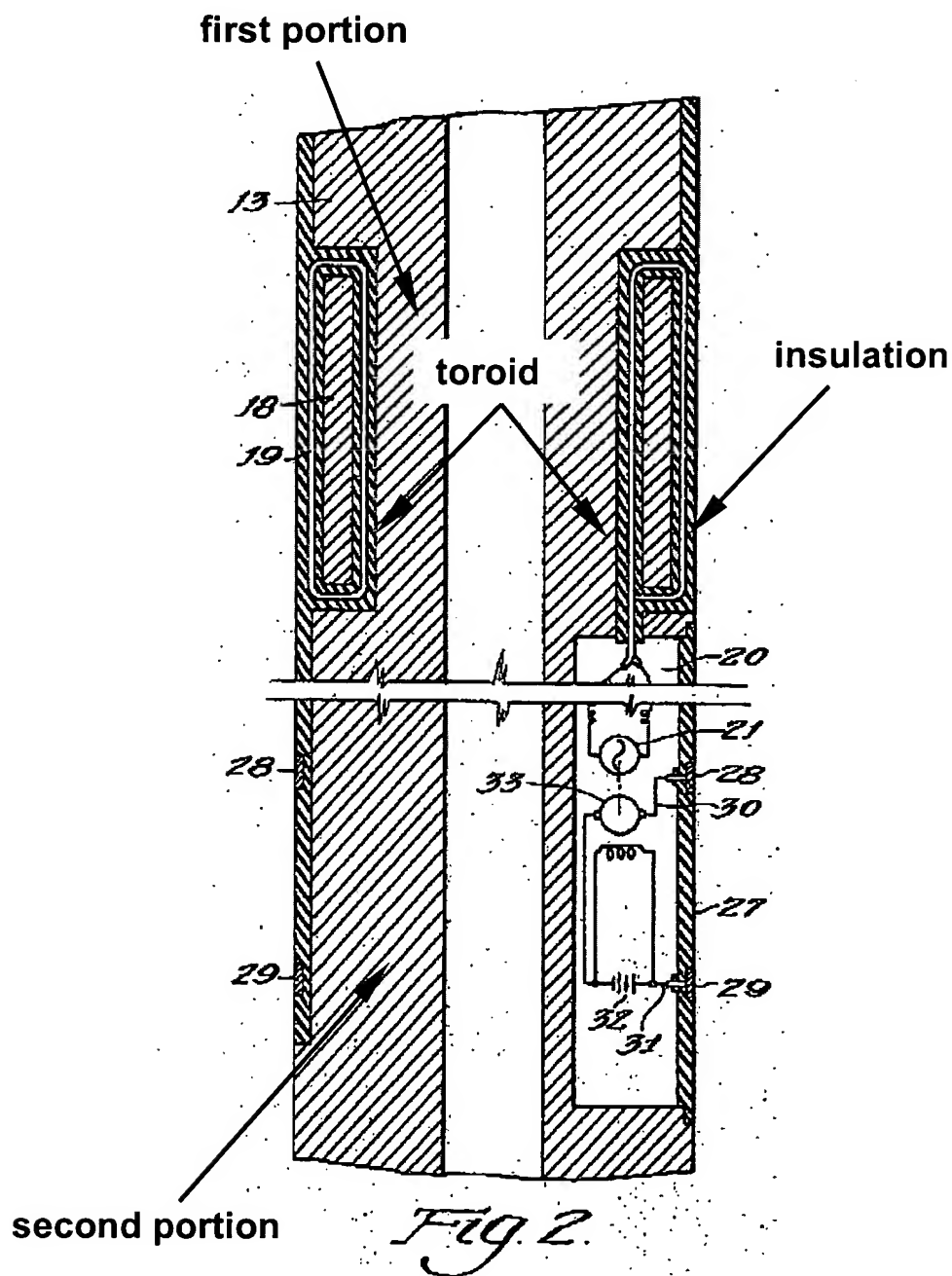
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2 and 4-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 2,354,887 to Silverman et al. Silverman et al. disclose an apparatus (Figs. 1-8) having a drill string (13) having a working end with a drilling means (14) for drilling a subterranean borehole; a measurement system (Figs. 3 and 4) suitable for measuring at least one operational characteristic (i.e. formation characteristic, resistivity, temperature) of the drilling means comprising a first and second portions of a metallic sections (see Fig. 2 below) in direct contact with the drill string; at least one toroid circumferentially located around the first portion of the metallic section and having toroidal electrically conductive windings; and a non-conducting material (insulated wire (19) and coating (27)) disposed around the toroid, whereby contact between the toroid and the subterranean environment during operation of the apparatus is precluded (as recited in claim 1); wherein the second portion of the metallic section is exposed whereby contact between the second portion and the subterranean environment during the operation of the apparatus is enabled (Silverman et al.: page 2, col. 1, lines 65-75) (as recited in claim 2); wherein the measurement system comprises a temperature means (resistive) (54) (Silverman et al.: page 4, col. 2, lines 1-10) for measuring the temperature within the

Art Unit: 2856

subterranean borehole (as recited in claim 5) and is located at the drill head connected to the working head of the drill string (see Fig. 1) (as recited in claim 4) and wherein the drill string is adapted for horizontal drilling (as recited in claim 6). Note: Functional recitation(s) using the words “for” and “adapted to” have been given little to no patentable weight because they fail to add any structural limitations and thereby regarded as intended use and/or desired result language. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Finstewalder*, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) (“The manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself.”); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). When interpreting functional language, if the prior art is capable of performing the claimed function—even if not directly disclosed—it anticipates. *In re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed. Cir. 1997); *In re Sinex*, 309 F.2d 488, 135 USPQ 302 (CCPA 1962). See also MPEP § 2114, 2115.

**Silverman et al.**

3. Claims 7-9 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 2,354,887 to Silverman et al. Silverman et al. disclose an apparatus having a metallic rod (drill string) (13)

Art Unit: 2856

suitable for drilling a subterranean borehole; a transmitter (see Fig. 2 above) in direct metallic contact with the metallic rod the transmitter comprising a toroid circumferentially located around the first portion of the metallic rod and having toroidal electrically conductive windings; and a non-conducting material (insulated wire (19) and coating (27)) disposed around the toroid, whereby contact between the toroid and the surrounding environment is precluded (as recited in claim 7); further comprising a measurement system suitable for measuring (Figs. 3 and 4) suitable for measuring at least one operational characteristic (i.e. formation characteristic, resistivity, temperature) connected to the transmitter (as recited in claim 8); further comprising a data receiver (23) operably connected to the metallic rod, whereby the metallic rod is a conduit for transmission of data between the transmitter and the data receiver (as recited in claim 9).

4. Claims 11-13 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 2,354,887 to Silverman et al. Silverman et al. disclose a method for retrieving operational data (i.e. formation characteristics, resistivity, temperature) (Figs. 1-8) from a subterranean borehole (11) including the method steps of inserting a data transmitter consisting of a toroid circumferentially disposed around a metallic portion of a measurement system and drill string (13) (Fig. 2) which inserted in the borehole which is operably connected to a data transmitter, measuring at least one operational parameter, and transmitting the data corresponding to the operational parameter through the drill string to a receiver (23) without employing an intermediate relay device between the transmitter and the receiver; and non-conducting material (insulated wire (19) and coating (27)) disposed around the toroid, whereby contact between the toroid and the borehole is precluded (as recited in claims 11 and 12); wherein the data is transmitted to the receiver by magnetically (magnetic flux/field) a signal into the drill string (as recited in claim 13).

Art Unit: 2856

5. Claims 14-17 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 2,354,887 to Silverman et al. Silverman et al. disclose a downhole electrical conduit (Figs. 1-8) having a toroid circumferentially disposed around a mechanical metallic support (metallic drill string (13), as recited in claim 15), the toroid having a toroidal electrically conductive winding (wire); and a non-conductive material (insulated wire and coating (27)) disposed around the toroid whereby contact between the toroid and a surrounding environment is precluded (as recited in claim 14) and further comprising a transmitter in direct metallic contact with the metallic drill string and in electrical communication with the toroid (as recited in claim 15) the electrical conduit employed for measuring an operational characteristic (i.e. formation characteristic, resistivity, temperature) of a subterranean drilling operation (as recited in claim 17).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 2,354,887 to Silverman et al. as applied to claims 1 and 7 above, and further in view of US 6,068,394 to Dublin, Jr. Silverman et al. disclose an apparatus for transmitting measured parameters in a subterranean downhole having all of the elements stated previously, including temperature measurement via a resistance thermometer (54) (Fig. 4A), in which the resistance changes with the temperature of the drill string/metallic rod. Silverman et al. do not expressly

Art Unit: 2856

disclose the measurement of tension via a tension measurement means in the working end of the drill string. Dublin, Jr. teaches an apparatus for measuring the strain via the change in the resistance value of strain gauges, and thus the tension (note: tension is positive valued strain), during the drilling of a subterranean borehole (see Figs. 1-11b). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an additional "resistive" type sensor, such as a strain gauge, replacing the resistive thermometer/temperature measurement means, thus providing an accurate assessment of all the force components acting on the drill bit/string, including stress and strain/tension (Dublin, Jr.: col. 4, lines 30-65).

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO 892 form for a listing of references all relevant to the instant invention. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have

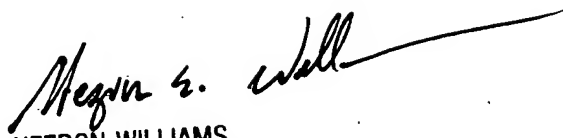
Art Unit: 2856

questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JF

01/10/2005



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